

Evaluation Statement

**Position Description
for
Engineer, GS-801-12
(CMB Projects-Planning Review)**

Labor Category/FLSA: E

 Current or X Proposed Specific Description

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Standards Used: General Schedule Supervisory Guide, dated 4/98, PCS for Engineering Group, GS-0800, dated 3/90 and Industrial Engineering Series, GS-0896, dated 1/75

Position Title/Series/Grade: Engineer, GS-0801-12

The proposed title, series, and grade for the position is General Engineer, GS-0801-12. The position has been evaluated using the position classification standard (PCS) for Industrial Engineers, GS-0896 and Engineering Group, GS-0800.

The PCS for the Engineering Group, GS-0800, covers all classes of positions the duties of which are to advise on, administer, supervise, or perform professional, scientific, or technical work in engineering research, in the investigation or development of engineering projects, or in the development, design, construction, inspection, production, application, standardization, test, operation or maintenance of engineering facilities. The series definition adequately describes the position under evaluation, since the duties and responsibilities entail every aspect of planning, design and construction of multi-million dollar construction program(s) assigned to the Construction Management Branch (CMB). The construction program(s) include projects that employ broad applications of architectural and engineering theories and practices.

The Industrial Engineering PCS was used to evaluate the nature and variety of work, nature of available guidelines used to perform the work, nature of supervisory control exercised over the work, mental demands, purpose and nature of person-to-person work relationships, nature and scope of recommendations, decisions, commitments and conclusions made to ensure that the level of work, professional knowledge, abilities and qualifications are consistent with the requirements of the standard.

The titling practices are not specifically addressed in the standard; however, the basic principles for titling positions are implied, based on information derived from the U.S. OPM Introduction to the Position Classification Standards. The standard states that, the series assigned to a position is

represented by the primary work of the position, highest level of work performed, and the paramount qualifications required. In this case, the primary work and paramount qualification requirements of this position is best described as that of an Engineer. The incumbent's has responsibility for performing a variety of office and field engineering duties associated with design, layout, construction, operation and maintenance of large research and office buildings, ensuring that the building's mechanical, structure and electrical systems are planned, installed and maintained in accordance with accreditation codes.

The title of Engineer requires practical application of basic scientific principles, fundamental engineering concepts and terminology, the units of measurement, and their interrelationship throughout all branches of engineering and a thorough understanding of engineering techniques and methods that are gained from four (4) years of engineering training from an accredited college or university. These requirements are critical to the successful performance of the position under evaluation, thus the title of Engineer is appropriate, since the incumbent must have a mastery of advanced concepts, principles, and practices of engineering to serve as a technical authority in the fields of accreditation, mechanical systems, structural systems and electrical equipment and systems as related to accreditation of hospital and animal care facilities. In addition, the incumbent of this position will provide technical advice and guidance to lower grade engineers and operating personnel on possible approaches to the solution of specific engineering problems related to equipment and systems specified as critical to accreditation issues.

As mentioned previously, the position is being evaluated based on the PCS for Industrial Engineering Series, GS-0896. The criterion used in the evaluation are: 1) nature and variety of work; 2) nature of available guidelines for performance of work; 3) nature of supervisory control exercised over the work; 4) mental demands; 5) purpose and nature of person-to-person work relationships; and 6) nature and scope of recommendations, decisions, commitments and conclusions.

I. Nature and variety of work. The position is comparable to the description of the GS-12 or this factor. At this level, the standard describes the following: the incumbent may serve as project engineer for complex projects, many of a unique nature; guidelines and/or precedents are often not available; at this level, skill in improvisations, deviations and difficult engineering determinations are typical at this level. The incumbent investigates a variety of operating problems such as chilled water flow problems in the underground distribution system, HVAC problems in the laboratories, operating problems with the NIHAC waste treatment plan and initiates the course of action to resolve problems. In addition, consults with construction engineers and contractor personnel to resolve difficult problems that develop during construction where there is no precedence or guidelines to refer to. The assignment of the GS-12 is appropriate for this factor.

II. Nature of available guidelines for performance of the work: The guidelines used by lower graded engineers are also used by GS-12 level Engineers for more routine phases of the work, but a major portion of their work requires the use of ingenuity, initiative and judgement. Engineers serving in an advisory position, serves as authoritative source of information in terms of location, availability, and adequacy of technical guides, precedents, methods, and techniques in their specialty. Typically, at this level, the

Engineers use originality in selecting, modifying, and adapting these guidelines to the solution of specific problems. The subject position is recognized as an authority, requiring the exercise of considerable judgement and ingenuity in interpreting or adapting guidelines that exist and in many cases develops new approaches. The assignment of GS-12 is appropriate.

III. Nature of supervisory control exercised over the work: The assignment of GS-12 is appropriate for this factor. At this level, the supervisor makes assignments in terms of broadly stated objectives and relative priority for completing the work. Completed work is reviewed for adequacy of results, for general consistency with other projects and conformance with administrative policies and regulations. Also, at this level, Engineers are regarded as authoritative sources of information. This criterion adequately describes the position under evaluation at the GS-12 level, since the incumbent is regarded as an authoritative source of information to contractors and lower graded staff members and the supervisor is available and kept informed of progress of assignments that are potentially controversial. The actions, decisions and commitments of the incumbent is regarded as authoritative and are accepted without change.

IV. Mental Demands: At the GS-12 level, the incumbent exercises a high degree of technical judgment, originality and resourcefulness to develop and execute specific plans of action for extensive and complex project assignments with only broadly states objectives outlined by the supervisor. The assignment of GS-12 is appropriate for this position, since the incumbent is expected to plan for and carry out projects with authority to act on his/her own initiative. The assignment of GS-12 is appropriate.

V. Purpose and nature of person-to-person work relationships: GS-12 is appropriate for this criterion, since the incumbent's contacts are for consultations, exchange of engineering data, information and opinions with respect to planning, establishment, coordination, and execution of the project.

VI. Nature and scope of recommendations, decisions, commitments, and conclusions: The position meets the GS-12 level for this factor. The standards describes this factor is being very significant in light of the level of planning and coordinating responsibilities required in positions at this level. At this level, positions are continually having to improvise, deviate and compromise engineering practices. They provide advice on complex problems with policy implications at the GS-12 level. This position is comparable to this level description since the incumbent will provide direction and technical advice to all major multi-million dollar design projects. When there are deviations from policies, master plans, schedules, budget estimations and operational characteristics of the project, the incumbent is expected to make recommendations for courses of actions as well as alternative courses of action. The assignment of GS-12 is appropriate.

Conclusion: Engineer, GS-801-12

I. INTRODUCTION

II. MAJOR DUTIES AND RESPONSIBILITIES

The incumbent serves as Engineer/Architect project manager for the Construction Management Branch (CMB), DPM. The incumbent is responsible for all aspects of coordinating the projects once their planning stage is completed and the IC customer has provided funding through work request, to their completion. The scope of incumbent's efforts include feasibility studies, preliminary surveys, preparation of project plans and budgetary cost estimates. The work is for new construction as well as renovation / alterations to medical research laboratory buildings, animal buildings, hospital facilities, and support buildings such as computer complexes, office buildings, shops, and warehouses. Projects typically involve hazardous facilities requiring special expertise to provide systems to contain the hazard.

Activities include:

- Review scopes of work for A/E services as prepared by Government Representative and assure their completeness and as appropriate contact IC customer or Building Management Section to clarify scope.
- Preparation of RFP to be forwarded to the contractors
- Review of contractors' proposals (A/E's and construction contractors) to assure their completeness and accuracy.
- Review quality control plans for A/E and construction contractors and assure they are complete and accurate.
- Coordinate site utilization with Government representative.
- Coordinate the project with NIH reviewing officials such as Division of Safety, Facilities Operations Branch, Fire Protection Section, etc.
- Review A/E and construction contractor's schedule and evaluate their completeness and constructability.
- Prepare Fee For Service cost estimates for each project
- Assemble project reports such as EVA for the Government representative use. If there is deviations that need corrective action, assure the proposed actions are reasonable and achievable.
- Assure waiver requests from contractors are submitted in a timely fashion and tracked properly to avoid delays to the project.
- Prepare Project Plans
- Review extramural grants projects of less critical nature
- Furnish expert technical advice to other staff as directed.

Factor 1 - Knowledge Required

- Furnishes advice to team members in other disciplines as well as to other CMB engineers. Incumbent processes the technical ability to analyze cost estimates made by A/E firms; prepare technical reports and papers on issues relating to contractors' performance.
- Coordinates with NIH environmental engineers, industrial hygienists, and safety specialists to ensure that all environmental and safety interests are considered; consulting with research personnel and other advisory groups such as the Environmental Safety Branch (ESB) and the Occupational Safety and Health Branch (OSHB).
- Ensures that the finished product (i.e., design, and construction) meets the needs of the NIH. Strict adherence by the incumbent to the requirements of the CMB Quality System Manual (QSM) is essential. Incumbent must perform all work in compliance with the CMB QSM strictly following its policies, procedures, and requirements concerning procedural documentation and internal and external audits.
- Conceptualizes and formulates projects by surveying existing site conditions to correctly assess space requirements and properly coordinate these requirements with the building systems through applying sound engineering practices. When renovating existing space, coordinates the elements of program need and time urgency with the constraints of space, service, and funding; and manages the project throughout the design phase to produce a set of drawings and specifications complete for on-site construction. Prepares and critiques time sequencing schedules, including those generated by computer program, as well as budget cost estimates of the elements of construction in the project.
- Furnishes expert technical advice based on his/her knowledge of the rudiments of contract law, Federal procurement policies and procedures, and financial management.
- Exhibits knowledge of construction contract law, Federal procurement policies and procedures, and financial management.

Factor 2 - Supervisory Controls

Supervision is essentially administrative in nature with assignments made in the form of a designated project for which the scope must be developed, designed, and construction contract administered by the Program Manager. The incumbent plans for and carries out projects with authority to act on own initiative on matters affecting the project's design. Master plans, deviation from agency policies, schedule changes, budget changes, and changes or actions that degrade the objective performance or alter operational characteristics of the project are submitted for final sign-off for the supervisor together with recommended courses of action, including available alternatives. The incumbent keeps the supervisor informed of progress on potentially controversial matters which the identifies by an ongoing project analysis or issues with far-reaching implications.

Otherwise, actions, decisions, and commitments are considered technically authoritative and are accepted without change. The supervisor, however, is available for consultation on policy matters.

Factor 3 - Guidelines

In addition to standard engineering references, guidelines are broadly stated agency regulations and policy statements. Much of the work involves policy matters or deals with coordination of programs or projects for the design and construction of biomedical research facilities, and Federal budget and procurement policies as they apply to A/E and construction procurement are of primary concern. Personnel policy and regulations are also of routine and necessary concern for the accomplishment of program objectives. The incumbent must exercise considerable judgement and ingenuity in interpreting or adapting guidelines that do exist and developing new approaches when required. Additionally, as a recognized authority, the incumbent must exercise considerable judgement and ingenuity in interpreting existing guidelines and policies and developing new approaches when required. Additionally, as a recognized authority, the incumbent develops instructions, guidelines, and directives for NIH application.

Factor 4 - Complexity

The assignments extend in varied situations into design, scheduling and construction phases. Where significant costs or energy are involved or where poor design would cause serious disruption to the planned research programs. There are often urgent assignments involving public exigency (e.g., rodent swine-flu virus development, AIDS research programs, etc.).

Factor 5 - Scope and Effect

The purpose of the work is to provide direction and expert technical advice to all major design projects planned for the NIH and its field stations. Projects for which the employee makes decisions are most often valued in the multimillion dollar range. Reliability in performance of support systems in medical research facilities and hospitals is of utmost importance; the employee has significant impact on the important medical research efforts carried on by NIH and its field stations and often sets the trend for future construction criteria at these facilities.

Factor 6 - Personal Contacts

Contacts are with private architect/engineers, engineers with other Federal government agencies and private firms, NIH administrative research personnel, engineers and industrial hygienists with other peer groups at NIH, other DPM engineers, contractor and manufacturers' representatives.

Factor 7 - Purpose of Contacts

Contacts private architect/engineers, to exchange information, coordinate work efforts, furnish technical advice, resolve controversial issues. Contacts engineers in other agencies and firms to coordinate and develop consistent policies and design approaches. Contacts NIH administrative and research personnel to determine scopes of work. Contacts peer group personnel to solicit advice on safety issues. Contacts other DPM engineers (maintenance engineers, construction engineers) to determine mechanical equipment maintenance needs and to resolve field problems which conflict with design. Contacts manufacturer's representatives to obtain information on latest products. The contract is a medium used by the engineer to act as liaison between the Federal government and contract engineers and to negotiate design modifications.

Factor 8 - Physical Demands

The work is usually sedentary and performed in an office environment, although travel to field installations involves a considerable amount of walking, climbing, and other forms of physical exertion associated with program evaluation activities.

Factor 9 - Work Environment

Work is normally performed in an office setting with some site visits to the laboratory and animal areas where bio-hazard exposure is common and some visits to mechanical equipment rooms and power plants where exposure to noise, high voltage and moving parts is common.